Bayamón Acquisition Properties, Inc.

RR-9 Box 1892 San Juan, PR 00926
Tel. (787) 250-2000 ❖ Fax 1(888) 325-6786

January 15, 2015

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Eng. Carlos R. Villafañe, P.E.
Active Branch Chief
Multimedia Permits and Compliance Branch
Attention: Eng. Hector D. Ortiz
Environmental Engineering
Caribbean Environment Protection Division
US Environmental Protection Agency, Region 2
City View Plaza II - Suite 7000
#48, PR-165 Km. 1.2
Guaynabo, PR 00968-8069

Wanda Garcia, Director
Water Quality Area
Puerto Rico Environmental Quality Board
P.O. Box 11488
Santurce, PR 00910
Attn: Director Water Quality Area

Re: **Administrative Compliance Order**
Docket # CWA-02-2013-3128
NPDES Tracking Number: PRU002779
Bayamon Acquisition Properties, Inc.

Project: **Valley View Residential Development**

Lady and Gentlemen:

To date all implemented corrective actions and mitigation program and spill emissions are currently 100% controlled. We have been visiting constantly the project to observe and prevent any spillage. To date there has been none.

As informed in our last report, our negotiations with Doral Bank's legal controversy continue in progress and we will have a hearing tomorrow, January 16, 2015, we will maintain you informed.

We will continue to work together with the Puerto Rico Environmental Quality Board and our compliance plan and will continue to inform EPA.

We have enclosed the following reports dated as of January 15, 2015 of works done in the beds "lechos" built by our company as requested by the EQB of PR.

1. Percolation Tests:
   a. Percolation Rate Survey Test (PR Building Code)
   b. Water Level Survey
   c. Soil Stratigraphic Column Description

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine an imprisonment for knowing violations.

Cordially,

Fernando Fernández
President

Cc: Edilberto Berrios, Attorney BAP

WESTERN SOIL, Inc.
Geotechnical-Environmental-Geological Material Testing Laboratory

CARTA TÉCNICA #1

15 DE ENERO DE 2015

Sr. Fernando Fernández
BAYAMON ACQUISITION PROPERTIES, INC.
RR-8 BOX 1892
SAN JUAN, PUERTO RICO 00926-9714

Ref: Ensayos de Infiltración, Determinación de Nivel Freático y Columna Estratigráfica, Valley View Village, Bo. Bairoa, Caguas, Puerto Rico.

ESTIMADA SEÑOR FERNÁNDEZ:

Según solicitado por su oficina, esta empresa realizó un (1) sondeo para obtener muestras representativas del subsuelo subyacente al predio de referencia, para determinar las condiciones estratigráficas del suelo, realizar un ensayo de infiltración y determinar, si alguna, la posible presencia de un nivel freático. El sondeo, muestreos, determinación de nivel freático y los ensayos de infiltración, se llevaron a cabo dentro del predio que nos ocupa para cumplir con los requisitos de permisología ante las agencias concernidas (OGPe y la Junta de Calidad Ambiental) y radicación de documentos para procesos reglamentarios. Esta carta técnica presenta los resultados de dicho sondeo, ensayo de infiltración y determinación de nivel freático para este proyecto residencial, la cual ubica en la carretera Estatal PR-796, Kilometro 1.6, Interior, Sector Guasaba en el barrio Bairoa en el Municipio de Caguas.

La perforación, muestreos para caracterización del suelo y los ensayos de infiltración fueron realizados dentro del predio que nos ocupa, según muestra la **Ilustración 1** (toda ilustración, diagrama y/o figura, se localiza en el **Anejo 1**). De acuerdo a las muestras recuperadas y a los datos obtenidos del SPT ("Standard Penetration Test") durante el barrenado, el subsuelo dentro del área que nos ocupa consiste básicamente de dos horizontes. El primer horizonte es descrito limos arcillosos de color marrón amarillento pálido con consistencia bien rígida y raíces pequeñas. Este horizonte tiene un espesor aproximado de 18 pulgadas.

258 MCKINLEY ST. MAYAGÜEZ, PR 00682 / PO BOX 345 MAYAGÜEZ, PR 00681-0345
PHONE 787-832-7612
FAX 787-832-6360

Este primer estrato de capa vegetal es seguido por arcillas limosas de consistencia rígida y color amarillento naranja con fragmentos de roca. Este estrato tiene un espesor aproximado de 8.5 pies. Finalmente, este horizonte de limos arcillosos color amarillento naranja es seguido por roca intemperizada. Esta roca intemperizada fue muestreada y descrita como Limos de color marrón amarillento y consistencia bien rígida. Este horizonte fue identificado hasta la profundidad investigada, 21.5 pies. Los procedimientos de barrenado y laboratorio (Idioma Inglés), se encuentran en el **Anejo 2** y la bitácora de campo en el **Anejo 3**.

Durante la investigación de campo, el nivel freático no fue encontrado en la cala realizada a una profundidad aproximada de 21.5 pies. En caso de detalles más precisos en cuanto a las elevaciones del nivel freático, este puede ser determinado mediante la construcción de uno o más posos de observación, medidos por varios días, especialmente en suelos compuestos de arcillas limosos, hasta que la lectura de nivel freático estabilice. El nivel freático podría variar con los cambios de época, clima, marejadas y eventos de inundación durante el año. La **Tabla 1** presenta los resultados de los ensayos de infiltración. El ensayo de infiltración presento valores de 35 min/pulg, el cual puedes ser utilizado para el análisis y diseño de cualquier sistema de infiltración (SIS) en acuerdo con los códigos y ordenamientos de construcción para Puerto Rico.

Tabla 1
Valley View Village
Bo. Bairoa
Caguas, Puerto Rico

Prueba ID	Razón Infiltración (Min/pulg)	Nivel Freático (pies)
B-1	35	NE

NE – No Encontrado

Si tiene alguna duda o pregunta sobre el contenido de esta carta técnica, por favor comuníquese con nosotros a la mayor brevedad.

Respetuosamente,

ING. MAX LARACUENTE BERNAT, MSCE, PH.D.(C),PG
Western Soil, Inc.

MAX R. LARACUENTE BERNAT
LICENCIA NUM. 010
PG
GEÓLOGO PROFESIONAL LICENCIADO

WESTERN SOIL, Inc.
Geotechnical-Environmental-Geological Material Testing Laboratory

ANEJO 1
ILUSTRACIONES

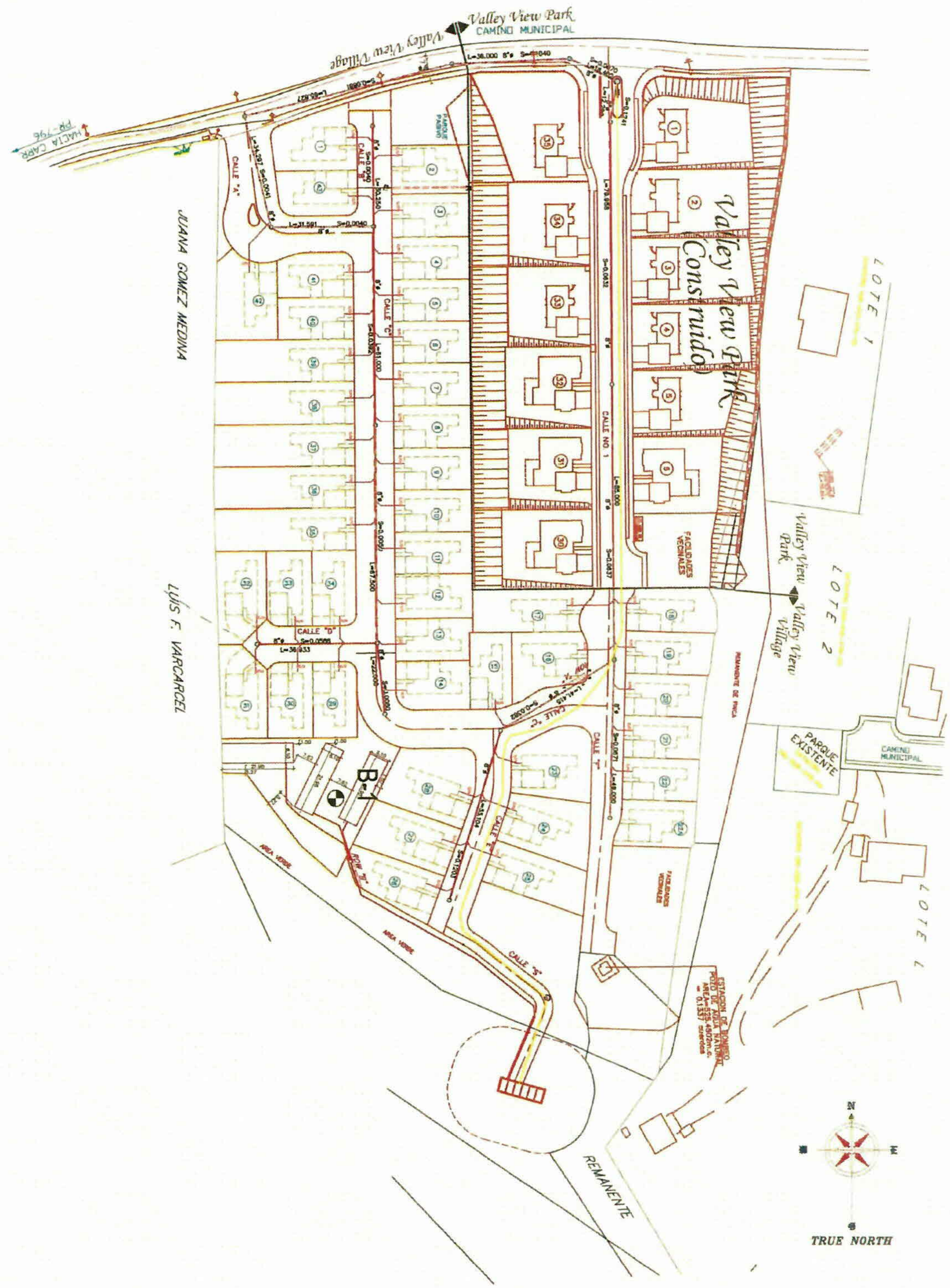


Ilustración 1 Localización de Barreno

WESTERN SOIL, Inc.
Geotechnical & Foundation Engineers
Phone: 787-832-7612/7622
email: wsoil@prtc.net

Valley View Village
PR-796, Km 1.6, Bo. Bairoa, Caguas, Puerto Rico

DATE: 10/15/14	DRAW BY: SLB	SCALE: NTS	REV: MLB

P.O.Box 345 Mayagüez P.R. # 258 McKinley St., Mayagüez P.R.

ANEJO 2

PROCEDIMIENTOS DE CAMPO Y LABORATORIO

(INGLES)

ANEJO 2
PROCEDIMIENTOS DE CAMPO Y LABORATORIO
(INGLES)

DRILLING

Auger Borings. These are performed by turning a hollow-stem auger into the ground a short distance. As the auger advances into the ground, the cuttings rise to the surface on the auger spirals, although the depth from which the material comes cannot be accurately determined. By using hollow-stem augers, samples can be recovered from the bottom of the auger, thus eliminating the need for driving casings.

Wash Borings. Wash borings are performed by advancing 5-foot casings (3-inch in diameter) into the ground with the drop of a 300-lb hammer from a height of 30 inches. The number of blows for every foot of casing penetration is reported in the boring logs. When driving of the casing becomes too difficult, due to the hardness of the soils encountered, and the hole does not cave-in, the boring is advanced without casing by continuously washing out the soils with the drill rods. The color and nature of the soils washed out is observed, examined and recorded to have a general idea of the extent of the soil strata.

Core Borings. Usually performed on rock formations, a core borings are advanced by rotating drill rods, a core barrel and a diamond bit. As the bit cuts into the rock, the rock core is free to move into the inner core barrel head, which is suspended on a swivel. Therefore, the rock core does not follow the rotary motion of the outer core barrel with its bit. Cooling water or a bentonite slurry is circulated through the drill rods and the core barrel. Penetration depends on the length of the core barrel and the quality (amount of joints or fractures) of the rock. Core runs are longer as rock quality increases. As the core barrel is withdrawn, the core lifter, located inside the diamond bit, wedges itself around the bottom of the rock core, thus permitting it to be pulled free from the underlying rock.

SAMPLING

Standard Penetration Test (ASTM D 1586). Standard Penetration Tests (SPT) are performed by driving a 1.375-in ID X 2-in OD X 18- or 24-in long, split spoon sampler with the drop of a 140-lb hammer from a 30-in height. The number of blows for every 6-in of sampler penetration is recorded, and the number of blows between 6 and 18 inches of penetration is reported as the N-value. Samples are stored and sealed in glass jars for visual classification and other routine laboratory tests. The SPT has been correlated with the consistency of fine-grained soils, and the angle of internal friction or the relative density of sands. Such correlations can be used for preliminary engineering analyses and classification of soil strata of a particular site. For the case of sands, this firm has adopted the recommendations by De Mello, 1971: obtain the angle of internal friction from N-values and overburden pressure to determine the relative density. In the case of fine-grained soils, the correlation of the SPT with the undrained shear strength of medium and stiff silts and clays of low sensitivity have been found to be fairly good. However, in the case of soft silts and clays, the SPT yields poor estimates of the undrained shear strength. Therefore, testing undisturbed samples, and performing other in situ tests (e.g., vane shear, cone penetration, dilatometer, etc.) may be more reliable for these cases.

Undisturbed Sampling. Undisturbed samples are obtained with thin-wall Shelby tube samplers, 2- to 5-in OD by 30-in long. The sampler is forced into the soil by static force or downward pressure and is pulled out also statically. These samplers are sealed in the field with wax and shipped to the laboratory. Samples are then extruded at the time of testing by pushing in the same direction that the sample penetrated the sampler. Special care is taken in handling these samples to minimize disturbance.

LABORATORY TESTING

Natural Moisture Content (ASTM D 2216). This is the water content of the in situ soil. It is obtained from either disturbed or undisturbed samples. Basically, about 40 grams of soil is placed in an oven for 24 hours at a temperature of 110° C. The difference in weight between the natural and oven-dried states of the soil, divided by the dry weight of the dry sample, expressed in percentage, is reported as the natural moisture content (w_n).

Atterberg Limits (ASTM D 4318). These limits and related indices are commonly used in geotechnical engineering for soil identification and classification purposes. However, these are also empirically correlated to various parameters which are used for preliminary analyses. The procedures used to determine liquid and plastic limits are described in the referenced ASTM standard.

Unconfined Compression (ASTM D 2166). The best-quality samples recovered during SPT performance are subjected to failure in unconfined compression. These samples are disturbed and the shear strength obtained is usually lower than the "true" in situ strength, depending on the degree of disturbance and the soil sensitivity. Furthermore, increased brittleness of the soil structure results in strength values lower than the in situ undrained strength. Therefore, the unconfined strength value determined from a split spoon sample is only used as index property for classification and identification purposes. If more accurate strength values are required, undisturbed samples are used.

SOIL DESCRIPTION (ASTM D 2488)

The description of soils include the color, type (gravel, sand, silt, clay, organic), consistency (if soil is fine-grained), size and roundness (if soil is coarse-grained), and some other special characteristics which can assist in the identification and classification of the soil. The latter are those recommended for field classification (dilatancy, dry strength, shine and toughness). To approximate the consistency of fine-grained soils (soft, medium, stiff, hard), a simple test is performed with the hand; a hard fine-grained soil is difficult to indent with the thumb nail, stiff soils are difficult to indent with the thumb, medium soils can be penetrated by moderate thumb pressure, and soft soils are easily penetrated with the thumb. The description of coarse-grained soils (sands and gravels) include size (fine, medium, coarse), and roundness (angular, sub-angular, sub-rounded, rounded, and well-rounded, according to Pettijohn, 1949). The relative amount of coarse fractions in fine-grained soils is estimated by placing a representative sample of some 50 grams in a graduated cylinder filled with water. The mix is shaken and allowed to settle. Particles of a size larger than fine sand are visible to the naked eye, while silts and clay are not. In this manner, estimates of the relative amount of the coarse fractions are made and reported as:

Trace	1 - 10%
Some	10 - 20%
Sandy or Gravelly	20 - 35%
And	35 - 50%

The relative density of sands has been also correlated with the SPT as follows:

N-values	**Relative Density**
0 - 4	very loose
4 - 10	loose
10 - 30	medium
30 - 50	dense
> 50	very dense

These correlations are very approximate, and vary with, among other factors, overburden pressure (Gibbs and Holtz, 1957, and Bazaraa, 1967). Moreover, these are meaningless in soils with a significant amount of gravel or cobbles. The relative amounts of the fine-grained soils is estimated according to the reaction of the soil to dilatancy, shine, dry strength and toughness, with the adjective indicating the less active fraction; i.e., a silty clay behaves more like a clay than a silt. The consistency of cohesive soils has also been correlated to the results of the SPT, as shown below. This correlation, however, is greatly affected by the clay structure and factors such as sensitivity.

Unconfined Compressive Strength (tsf)	**N-value**	**Consistency**
< 0.25	< 2	very soft
0.25 - 0.50	2 - 4	soft
0.50 - 1.00	4 - 8	medium
1.00 - 2.00	8 - 15	stiff
2.00 - 4.00	15 - 30	very stiff

> 4.00	> 30	hard

ROCK DESCRIPTION

Geologic features used to describe rock cores are weathering, hardness, joint bedding and foliation spacing, percent recovery, RQD, etc. These are explained in the following tables:

Weathering

Degree	Sample Condition
Fresh	Fresh, bright crystals, few joints may show slight staining. Rock rings under hammer if crystalline.
Very Slight	Generally fresh, joint-stained, some joints may show clay if open, crystals in broken face show clay if open, crystals in broken face show bright. Rock rings under hammer if crystalline.
Slight	Generally fresh, joint-stained and discoloration extends into rock up to 1". Open joints contain clay. In granodiorite rocks, some feldspar crystals are dull and discolored. Crystalline rocks ring under hammer.
Moderate	Significant portions of rock show discoloration and weathering effects. In granodiorite rocks, most feldspars are dull and discolored; some show clayey. Rock has dull sound under hammer, and show significant loss of strength as compared with fresh rock.

Moderately Severe	All rocks, except quartz, discolored or severely stained. In granodiorite rocks, all feldspars are dull and most show kaolinization. Rock shows severe loss of strength and can be excavated with geologist pick. Rock goes "chunk" when struck.
Severe	All rocks, except quartz, discolored or stained. Rock "fabric" clear and evident, but reduced in strengh to strong soil. In granodiorite rocks, all feldspars are kaolinized to some extent.
Very Severe	All rocks, except quartz, discolored or stained. Rock "fabric" discernible but mass effectively reduced to "soil," with only fragments of strong rock remaining.
Complete	Rock reduced to "soil." Rock "fabric" not discernible, or discernible only in small scattered locations. Quartz may be present as dikes or stringers.

Hardness

Degree	Sample Conditions
Very Hard	Cannot be scratched with knife or sharp pick. Breaking of hand specimens requires several hard blows with geologist pick.
Hard	Can be scratched with knife or pick only with difficulty. Hard blow of hammer required to

	detach hand specimen.
Moderately Hard	Can be scratched with knife or pick. ¼"-deep gouges or grooves can be excavated by hard blow with point of geologist pick. Hand specimens can be detached by moderate blow.
Medium	Can be grooved or gouged 1/16" deep by firm pressure of knife or pick point. Can be excavated in small 1" chips with geologist pick.
Soft	Can be gouged or grooved readily with knife or pick point. Can be excavated in chips, several inches in size, by moderate blows of a pick point. Small thin pieces can be broken by finger pressure.
Very soft	Can be carved with knife. Can be excavated readily with point of pick. Pieces, one inch or more in thickness, can be broken by finger pressure. Can be scratched readily by finger nail.

**For engineering description of rock, not to be confused with Moh's scale for minerals.*

Note: *For specific projects involving only a limited number of rock types, subdivisions or major groupings may be desirable. Numerical or alphabetical subscripts may be used to identify such subdivisions.*

Joint Bedding and Foliation Spacing in Rock. Joint spacing refers to the distance normal to the plane of the joints of a single system, or "set" of joints which are parallel to each other or nearly so. The spacing of each "set" should be described if it is possible to establish.

Spacing	Joints	Bedding & Foliation
< 2"	very close	very thin
2" - 1'	close	thin
1' - 3'	mod. close	medium
3' - 10'	wide	thick
> 10'	very wide	very thick

Core Recovery and Rock Quality Designation (RQD). In addition to the inspection of the rock core, other valuable information to the engineer is the percent recovery, and the rock quality designation (RQD). The percent recovery is defined as:

$$\% \text{ Recovery} = \frac{\text{Length of core sample recovered}}{\text{Length of cored run}}$$

If the core is broken by hauling or by the drilling process (i.e., the fracture surfaces are fresh irregular breaks rather than natural joint surfaces), the fresh broken pieces are fitted together and counted as one piece, provided that they form the required 4-inch length. Some judgement is necessary. The RQD is expressed in percent for NX or NWM cores as:

$$\text{RQD} = \frac{\text{Sum of the lengths of core pieces longer than 4 in}}{\text{Length of run drilled}}$$

The quality of the rock is described as follows:

RQD, %	**Description of Rock Quality**
0 - 25	very poor
25 - 50	poor
50 - 75	fair
75 - 90	good
90 - 100	excellent

Anejo 3
BITACORAS DE CAMPO

LOG OF BORING No. 1

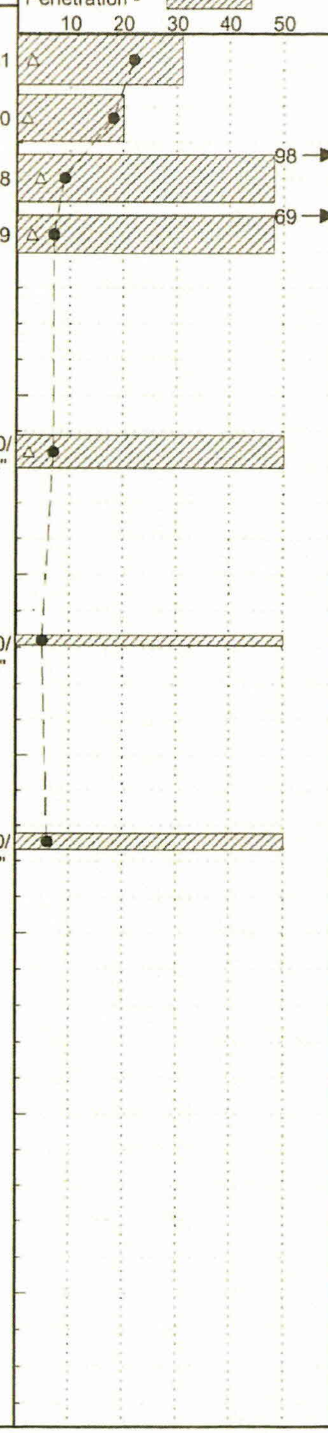
WS WESTERN SOIL, Inc. Geotechnical Engineers

PROJECT: Valley View Village **DATE:** 2/3/2014
CLIENT: Bayamon Acquisition Ptoperties, Inc. **WATER LEVEL, ft (Date):** NF(2/3/14)
LOCATION: PR-796,Km 1.6, Bairoa Ward, caguas **ELEVATION:** Uknown
DRILLING METHOD: Hollw Stem Auger **DRILLER:** JVC **LOGGED BY:** MLB

Depth (feet)	Elevation (meters)	Description	USCS CLASSIFICATION	Strata	Sample No.	Sampler Type	Blow Counts	N-Value
0	0	Pale yellowsih brown, hard clayey silt with trace to little fine sand and tiny roots (upper 6")			1		13 20 11	31
		Pale yellowish orange, very stif clayey silt, trace to little fine sand and rock fragments			2		8 9 11	20
	0.9	As above (hard)			3		38 49 49	98
4.5		As above (hard)			4		28 20 49	69
	1.8							
9	2.7							
		Highly weathered rock sampled as Yellowish brown hard silt with rock fragments and trace to little fine sand, oxi joints.			5		39 50/4"	50/4"
	3.6							
13.5	4.5	As above			6		49 50/3"	50/3"
18	5.4							
	6.3	As above			7		48 50/1"	50/1"
		Boring terminated at 21.5 ft.						
22.5	7.2							
27	8.1							
	9							
31.5	9.9							

TEST RESULTS

Pen., TSF △
Qu, TSF ■
Plastic Limit ⊢—⊣ Liquid Limit
Water Content - ●
Penetration -



This information pertains only to this boring and should not be interpreted as being indicitive of the site.

(X) EAST: Uknown
(Y)NORTH: Uknown